IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Thomas Paul Feist, et al.	)	
		)	Group Art Unit: 1773
Serial No.:	10/063,004	)	
		)	
Filed:	March 11, 2002	)	
		)	Examiner: K. Bernatz
For:	POLY(ARYLENE ETHER) DATA STORAGE MEDIA	)	
		)	

VIA ELECTRONIC FILING
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT AND RESPONSE

Sir:

This Amendment is submitted in response to the Office Action dated April 26, 2006, for which a petition for extension of time to extend the period for reply by one month, to August 26, 2006, is submitted herewith. This Response is timely filed, as August 26, 2006 is a Saturday.

Please amend the Application as follows:

IN THE SPECIFICATION

[0016] The substrate can comprise a single phase blend of poly(arylene ether) (PAE) and a styrenic material comprising polystyrene (PS) and/or a styrenic copolymer(s) (e.g., styrene-co-acrylonitrile (SAN) and/or styrene-co-maleic anhydride (SMA)). In one embodiment, the storage media comprises PAE with a weight average molecular weight of about 5,000 to about 50,000 and polystyrene with a weight average molecular weight of about 10,000 to about 300,000, wherein all molecular weight herein is given in atomic mass units (AMU) unless otherwise specified. Preferably, less than or equal to about 20 wt% of the PAE has a weight average molecular weight (M_w) of less than or equal to about 15,000, with less than or equal to about 10 wt% preferred, and less than or equal to about 5 wt% especially preferred to obtain improvements in processibility and to tailor mechanical properties. The maximum radial tilt and tangential tilt are independently, preferably, no more than about 1° each, and more preferably less than about 0.3° each, measured in a resting state (i.e., not spinning). Additionally, the overall thickness typically employed is about 0.8 mm to about 2.5 mm. The storage media can have a thickness of up to about 1.2 mm.

IN THE CLAIMS

1. (Currently Amended) A storage media for data, comprising:

a substrate having a thickness of less than or equal to 1.2 mm and comprising a single phase plastic resin portion, wherein the plastic resin portion comprises poly(arylene ether) and a styrene material selected from the group consisting of polystyrene, styrenic copolymer(s), and reaction products and combinations comprising at least one of the foregoing styrene material(s); and

a data layer on the substrate;

wherein the data layer can be at least partly read from, written to, or a combination thereof by an energy field; and

wherein, when the energy field contacts the storage media ~~that has a thickness of about 0.8 mm to about 2.5 mm~~, the energy field is incident upon the data layer before it could be incident upon the substrate.

2. (Original) The storage media as in Claim 1, further comprising surface features selected from the group consisting of servo-patterning, edge features, asperities, and combinations comprising at least one of the foregoing surface features.

3. (Original) The storage media of Claim 1, wherein the poly(arylene ether) has a weight average molecular weight of about 5,000 to about 50,000 AMU, and the polystyrene has a weight average molecular weight of about 10,000 to about 300,000 AMU.

4. (Original) The storage media of Claim 3, wherein less than or equal to about 20 wt% of the poly(arylene ether) has a weight average molecular weight of less than or equal to about 15,000 AMU.

5. (Original) The storage media of Claim 4, wherein less than or equal to about 10 wt% of the poly(arylene ether) has a weight average molecular weight of less than or equal to about 15,000 AMU.

6. (Original) The storage media of Claim 5, wherein less than or equal to about 5 wt% of the poly(arylene ether) has a weight average molecular weight of less than or equal to about 15,000 AMU.

7. (Original) The storage media of Claim 1, wherein the plastic resin portion further comprises less than or equal to about 90 wt% poly(arylene ether) and less than or equal to about 90 wt% styrene material, based on the total weight of the plastic resin portion.

8. (Original) The storage media of Claim 7, wherein the plastic resin portion further comprises about 25 wt% to about 75 wt% poly(arylene ether) and about 25 wt% to about 75 wt% styrene material, based on the total weight of the plastic resin portion.

9. (Original) The storage media of Claim 8, wherein the plastic resin portion further comprises about 40 wt% to about 60 wt% poly(arylene ether) and about 40 wt% to about 60 wt% styrene material, based on the total weight of the plastic resin portion.

10. (Previously Presented) The storage media of Claim 1, wherein the styrene material comprises the styrenic copolymer, and wherein the styrenic copolymer is prepared by bulk, suspension or emulsion polymerization using a monovinyl aromatic hydrocarbon selected from the group consisting of alkyl-, cycloalkyl-, aryl-, alkylaryl-, aralkyl-, alkoxy-, aryloxy-, and reaction products and combinations comprising at least one of the foregoing monovinyl aromatic hydrocarbon.

11. (Original) The storage media as in Claim 10, wherein the hydrocarbon is selected from the group consisting of styrene, 4-methylstyrene, 3,5-diethylstyrene, 4-n-propylstyrene, a-methylstyrene, a-methylvinyltoluene, a-chlorostyrene, a-bromostyrene, dichlorostyrene, dibromostyrene, tetrachlorostyrene, and combinations comprising at least one of the foregoing hydrocarbons.

12. (Previously Presented) The storage media of Claim 1, wherein the styrene material comprises the styrenic copolymer, and wherein the styrenic copolymer has less than or equal to about 25 mole% co-monomer.

13. (Original) The storage media of Claim 12, wherein the styrenic copolymer has about 4 mole% to about 15 mole% co-monomer.

14. (Original) The storage media of Claim 13, wherein the styrenic copolymer has about 6 mole% to about 10 mole% co-monomer.

15. (Original) The storage media of Claim 12, wherein the co-monomer is selected from the group consisting of acrylonitrile, maleic anhydride, and reaction products and combinations comprising at least one of the foregoing co-monomers.

16. (Original) The storage media of Claim 1, further comprising an additive selected from the group consisting of silicates, titanium dioxide, glass, zinc oxide, zinc sulfide, carbon black, graphite, calcium carbonate, talc, mica, and reaction products and combinations comprising at least one of the foregoing additives.

17. (Original) The storage media of Claim 16, wherein the additives are in a form selected from the group consisting of continuous fibers, chopped fibers, flakes, nanotubes, spheres, particles, and combinations comprising at least one of the foregoing forms.

18. (Original) The storage media of Claim 1, further comprising an additive selected from the group consisting of mold release agent(s), UV absorber(s), light stabilizer(s), thermal stabilizer(s), lubricant(s), plasticizer(s), dye(s), colorant(s), anti-static agent(s), anti-drip agent(s), and reaction products and combinations comprising at least one of the foregoing additives.

19. (Previously Presented) The storage media of Claim 1, wherein the styrene material comprises about 25 wt% to about 90 wt% polystyrene and about 10 wt% to about 75 wt% styrenic copolymers, based upon the total weight of the styrene material.

20. (Previously Presented) The storage media of Claim 19, wherein the styrene material further comprises about 50 wt% to about 90 wt% polystyrene and about 10 wt% to about 50 wt% styrenic copolymers, based upon the total weight of the styrenic material.

21. (Original) The storage media of Claim 1, wherein the poly(arylene ether) has an intrinsic viscosity of about 0.10 to about 0.60 dl/g measured in chloroform at 25°C.

22. (Currently Amended) A storage media for data, the media comprising:

a substrate having a thickness of less than or equal to 1.2 mm and comprising a single phase plastic resin portion, wherein the plastic resin portion consists essentially of poly(arylene ether) and a styrene material selected from the group consisting of polystyrene, styrenic copolymer(s), and reaction products and combinations comprising at least one of the foregoing styrene material(s); and

a data layer on the substrate;

wherein the data layer can be at least partly read from, written to, or a combination thereof by an energy field; and

wherein, when the energy field contacts the storage media, the energy field is incident upon the data layer before it could be incident upon the substrate.

23. (Original) The storage media of Claim 22, wherein less than or equal to about 20 wt% of the poly(arylene ether) has a weight average molecular weight of less than or equal to about 15,000 AMU.

24. (Original) The storage media of Claim 23, wherein less than or equal to about 10 wt% of the poly(arylene ether) has a weight average molecular weight of less than or equal to about 15,000 AMU.

25. (Original) The storage media of Claim 24, wherein less than or equal to about 5 wt% of the poly(arylene ether) has a weight average molecular weight of less than or equal to about 15,000 AMU.

26. (Previously Presented) The storage media of Claim 22, wherein the styrene material comprises the styrene copolymer, and wherein the styrenic copolymer has less than or equal to about 25 mole% co-monomer.

27. (Original) The storage media of Claim 26, wherein the styrenic copolymer has about 4 mole% to about 15 mole% co-monomer.

28. (Original) The storage media of Claim 27, wherein the styrenic copolymer has about 6 mole% to about 10 mole% co-monomer.

29. (Original) The storage media of Claim 22, wherein the poly(arylene ether) has an intrinsic viscosity of about 0.10 to about 0.60 dl/g measured in chloroform at 25°C.

30. (Currently Amended) A method for retrieving data, comprising:

rotating a storage media having a substrate, the substrate having a thickness of less than or equal to 1.2 mm and comprising a single phase plastic resin portion and a data layer disposed on a surface of the substrate, wherein the plastic resin portion comprises poly(arylene ether) and a styrene material selected from the group consisting of polystyrene, styrenic copolymer(s), and reaction products and combinations comprising at least one of the foregoing styrene material(s);

directing an energy field at the storage media such that the energy field is incident upon the data layer before it can be incident upon the substrate; and

retrieving information from the data layer via the energy field.

31. (Original) The method for retrieving data as in Claim 30, further comprising passing at least a portion of the energy field to the data layer, and passing at least a part of the portion of the energy field back from the data layer.

32. (Original) The method for retrieving data as in Claim 30, wherein the energy field is incident upon the data storage layer without being incident upon the substrate.

33. (Original) The method for retrieving data as in Claim 30, wherein less than or equal to about 10 wt% of the poly(arylene ether) has a weight average molecular weight of less than or equal to about 15,000 AMU.

34. (Original) The method for retrieving data as in Claim 33, wherein less than or equal to about 5 wt% of the poly(arylene ether) has a weight average molecular weight of less than or equal to about 15,000 AMU.

35. (Previously Presented) The method for retrieving data as in Claim 30, wherein the styrene material comprises the styrenic copolymer, and wherein the styrenic copolymer has about 4 mole% to about 15 mole% co-monomer.

36. (Original) The method for retrieving data as in Claim 35, wherein the styrenic copolymer has about 6 mole% to about 10 mole% co-monomer.

37. (Original) The method for retrieving data as in Claim 30, wherein the poly(arylene ether) has an intrinsic viscosity of about 0.10 to about 0.60 dl/g measured in chloroform at 25°C.

38. (Previously Presented) The storage media of Claim 1, further comprising a maximum radial tilt of less than about 1°, measured in a resting state.

39. (Previously Presented) The storage media of Claim 38, wherein the radial tilt is less than about 0.3°, measured in a resting state.

40. (Currently Amended) An optical disk, comprising:

a substrate having a thickness of less than or equal to 1.2 mm and comprising a single phase plastic resin portion, wherein the plastic resin portion comprises poly(arylene ether) and a styrene material selected from the group consisting of polystyrene, styrenic copolymer(s), and reaction products and combinations comprising at least one of the foregoing styrene material(s); and

a data layer on the substrate;

wherein the data layer can be at least partly read from, written to, or a combination thereof by a light; and

wherein, when the light contacts the storage media, the light is incident upon the data layer before it could be incident upon the substrate.

41. (Currently Amended) A storage media for data, comprising:

a substrate having a thickness of ~~about 0.8 mm to about 2.0 mm~~ less than or equal to 1.2 mm and comprising a single phase plastic resin portion, wherein the plastic resin portion comprises poly(arylene ether) and polystyrene; and

a data layer on the substrate;

wherein the data layer can be at least partly read from, written to, or a combination thereof by an energy field; and

wherein, when the energy field contacts the storage media, the energy field is incident upon the data layer before it could be incident upon the substrate.

REMARKS

Claims 1 – 41 are pending in the present Application. Claims 1, 22, 30, 40, and 41, have been amended, leaving Claims 1 – 41 for consideration upon entry of the present Amendment. The Specification has been amended for consistency with the claims.

Claims 1, 22, 30, 40, and 41, have been amended to for clarity as to the storage media claimed. Support for this amendment, and the amendment to the Specification, can at least be found on page 16, lines 25 – 28, as well as in the Figures and descriptions thereof, of U.S. Patent Application No. 09/502,968, to which this application claims priority and incorporates by reference.

No new matter has been introduced by these amendments. Reconsideration and allowance of the claims are respectfully requested in view of the above amendments and the following remarks.

Information Disclosure Statement

Applicants note that the Examiner has not considered the art submitted in the Information Disclosure Statement dated December 18, 2003. Applicants respectfully request that the art submitted in this Information Disclosure Statement be considered and a fully initialed PTO Form A820 be returned to the Applicants.

Examiner's Comments

As per the interview summary of September 14, 2004, the Examiner notes that the clause "that has a thickness of about 0.8 mm to about 2.5 mm" pertains to the substrate and is not constructed as part of the "when-then" clause. Appropriate clarification in the language of the claim is suggested. The claims have been amended accordingly.

Interview Summary

The undersigned would like to thank the Examiner for his time and assistance during the telephone interview on June 28, 2006. Discussed were the claims generally, and the Sandstrom, Manabu et al, and Feuerherd references. It was suggested to clarify the claims to recite a

thickness of less than or equal to 1.2 mm, possibly in combination with an axial displacement and/or radial tilt. Also discussed was the substrate comprising a ternary mixture.

Claim Rejections Under 35 U.S.C. § 103(a)

Claims 1, 7 – 11, 18, 21, 22, 29 – 32 and 37 – 41 stand rejected under 35 U.S.C. §103(a), as allegedly unpatentable over U.S. Patent No. 5,972,461 to Sandstrom, in view of Japanese Patent No. JP 63-056832 A to Manabu, et al. Applicants respectfully traverse this rejection.

Sandstrom is relied upon to teach a storage media comprising a substrate comprising a polymeric material required to possess good dimensional stability and a data layer on the substrate such that when an energy field contacts the storage medium, the energy field is incident upon the data layer before it could be incident upon the substrate. (Office Action dated April 26, 2006, hereinafter "OA 04/06", page 3). Allegedly Sandstrom teaches that the storage media has a thickness of about 0.8 to about 2.5 mm. (OA 04/06, page 3) It is admitted that Sandstrom "fail to disclose using a substrate meeting applicants' claimed material limitations." Hence, Manabu et al. are relied upon to teach Applicants' claimed composition. (OA 04/06, pages 3 – 4)

Obviousness is not based upon what an artisan *might do* or *could do*, but is based upon what an artisan would be motivated to do, with an expectation of success. Section 103 sets out the test for obviousness determinations. It states, in pertinent part, that such determinations are to be made by consideration of

> . . . the differences between subject matter sought to be patented and the prior art such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the [pertinent] art.

In making a Section 103 rejection, the Examiner bears the burden of establishing a prima facie case of obviousness. *In re Fine*, 5 U.S.P.Q. 2d 1596, 1598 (Fed. Cir. 1998). The Examiner ". . . can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in art would lead that individual to combine the relevant teachings of the references". *Id.* In applying Section 103, the U.S. Court of Appeals for the Federal Circuit has consistently held that one must consider both the invention and the prior art "as a whole", not from improper hindsight gained from consideration of the claimed invention. See, *Interconnect Planning Corp. v. Feil,* 227 U.S.P.Q. 543, 551 (Fed. Cir. 1985) and cases cited therein. According to the *Interconnect* court

> [n]ot only must the claimed invention as a whole be evaluated, but so also must the references as a whole, so that their teachings are applied in the context of their significance to a technician at the time - a technician without our knowledge of the solution.

Id.

The present claims are directed to a unique storage media comprising a substrate having a thickness of less than or equal to 1.2 mm and comprising a single phase plastic resin portion, wherein the plastic resin portion comprises poly(arylene ether) and a styrene material selected from the group consisting of polystyrene, styrenic copolymer(s), and reaction products, and combinations comprising at least one of the foregoing styrene material(s). (e.g., Claims 1, 30, and 40)

Sandstrom discloses a "Rewritable Optical Data Storage Disk Having Enhanced Flatness". In order to attain the "enhanced flatness" and avoid process induced surface variations such as warpage and tilt, Sandstrom disclosed a substrate with increased thickness that is greater than or equal to approximately 1.5 mm and less than or equal to approximately 2.5 mm. (Abstract and throughout the Specification)

Sandstrom teaches that an "air gap forms a bearing over which the flying head rides during operation. For near-field recording, the thickness of the air gap is less than one wavelength of the recording beam." (Col. 1, lines 32 – 37) In order to operate in these types of conditions (i.e., near field; not reading through the substrate), enhanced flatness is necessary.

> [c]onventional spatial densities of optical disks ordinarily tolerate some degree of focusing error, and therefore are not greatly impacted by flatness variation. Also, to the extent that focusing error is a problem, conventional substrate-incident recording drives typically include closed-loop focus adjustment across the surface of the disk. At higher spatial densities, however, surface deviation can impair the ability of the drive laser to consistently write and read to and from individual domains on the disk.... Higher spatial densities may allow very little if any tolerance for focusing error induced by flatness variation.

(Sandstrom, Col. 3, lines 43 – 59)

> The increased thickness of [Sandstrom's] substrate enhances the flatness of the recording disk relative to a recording plane... The *enhanced flatness enables* data to be recorded on the disk in a consistent manner with greater spatial densities using techniques such as near-field, air-incident recording.

(Sandstrom, Col. 2, lines 27 – 32; *emphasis* added) Additionally, Sandstrom, when read as a whole, teaches away from discs having substrate sizes of less than or equal to 1.2 mm.

> A rewritable optical recording disk has a substrate with an increased thickness that is greater than or equal to approximately 1.5 mm and less than or equal to approximately 2.5 mm. The increased thickness of the substrate enhances the flatness of the recording disk relative to a recording plane.

(Abstract)

> The disk fabrication process, for example, can produce warpage and tilt in the disk. With thinner substrates, in particular, the effects of gravity and thermal gradients during the post-mold cooling phase can cause uneven densification and unbalanced thermal stresses at different areas of the disks. For example, portions of the disk closest to the mold surface will cool more quickly. The result is disk warpage and tilt.

(Col. 2, line 64 – Col. 3, line 4)

> [T]he increased thickness of the substrate provides significantly enhanced flatness by increasing the rigidity and weight of the disk. The increased rigidity enables the disk to effectively resist deflection during disk drive operation. The increased weight and resulting gravity of the disk also counteract forces that would otherwise cause significant warpage and tilt during fabrication. Substrate thicknesses that are greater than or equal to approximately 1.5 millimeters (mm) provide the rigidity and weight necessary to achieve desired flatness across the surface area of the disk...

(Col. 4, lines 3 – 14)

In other words, a major focus of the specification of Sandstrom is the thickness of the substrate, i.e., a thickness of greater than about 1.5 mm. When substrates of a thickness of 1.2 mm are discussed, they are discussed from the perspective of laminating them together to attain a 2.4 mm thick disk:

> Substrate 12 preferably is formed as a single, integrally formed piece, but could be constructed from two or more layers bonded together by, for example, adhesive bonding or lamination. For example, two polycarbonate substrates produced from conventional 1.2 mm MO substrate molds could be bonded together to provide a 2.4 mm substrate.

(Col. 7, lines 44 – 49) Therefore, in accordance with 35 U.S.C. §103, when Sandstrom is read as a whole, it teaches away from a substrate having a thickness of less than 1.5 mm. (Applicants note, in the section cited in OA 04/06, namely Col. 7, line 55 – Col. 8, line 58, it is not seen where Sandstrom discloses "the storage media has a thickness of about 0.8 to about 2.5 mm".) Hence, to reiterate, Sandstrom teaches a substrate thickness of 1.5 to 2.5 mm (e.g., Col. 8, lines 43 – 45), and teaches away from a substrate having a thickness of less than 1.5 mm.

Manabu et al. are relied upon to teach the claimed composition, and it is alleged that it would be obvious to combine the references since the

> substrate material is explicitly taught for use in magneto-optic applications because of the improved adhesion between adjacent layers, as well as the excellent environmental resistance and high dimensional stability, properties explicitly desired by Sandstrom for substrates to be used in air-incident recording applications...

(OA 04/06, pages 3 – 4) However, it is first noted that Manabu et al. is not directed to "air-incident recording". They are concerned with birefringence "the objective of this invention is to provide a photomagnetic disk with low double refraction and high resistance to the environment." (Manabu et al, translation, page 3) Hence, Manabu et al. are teaching read thru media, not air-incident media.

At least considering the teachings of Sandstrom as to the differences and requirements of air-incident media versus read thru media, there is no motivation to combine an air-incident media teaching (e.g., Sandstrom) with a read-thru media teaching (e.g., Manabu et al.), and no expectation of success. Tolerances, necessary flatness variation, etc., are different between these media as is taught in Sandstrom (Col. 3, lines 43-59). Hence, one of ordinary skill in the art would not consider read-thru media teachings when addressing air-incident media issues of tolerance, flatness, and the like.

Additionally, even if combined, the present application would not be attained at least for the reason that Sandstrom clearly teaches away from a substrate having a thickness of less than 1.5 mm. Hence, combined as suggested in OA 04/06, the Sandstrom and Manabu et al. combination would, at best, be a media with a substrate having a thickness of 1.5 to 2.5 mm and comprising an aromatic vinyl monomer and polyphenylene ether. This non-obvious

combination, even if formed, fails to meet all of the elements of the claims.

Applicants disagree that Sandstrom teaches controlling the radial tilt for a substrate having a thickness of less than or equal to 1.2 mm, in a range of less than or equal to about 0.3°, and further disagree that Sandstrom teaches that stiffness/rigidity/thickness can be varied to effect resistance to tilt, axial displacement, etc. (OA 04/06, page 5) Stiffness, rigidity, axial displacement, and tilt are not result effective variables.

Notwithstanding Sandstrom and Manabu et al's failure to teach many of the elements of the dependent claims, since there is no motivation or expectation of success to combine Sandstrom's near-field media teachings with the read-thru media of Manabu, no *prima facie* case of obviousness has been established. Additionally, since, even combined, these references fail to teach each element of the claimed invention, the present claims are non-obvious over Sandstrom in view of Manabu et al. Reconsideration and withdrawal of this rejection are respectfully requested.

Claims 2 – 6, 12 – 15, 19, 20, 23 – 28 and 33 – 36 stand rejected under 35 U.S.C. §103(a), as allegedly unpatentable over U.S. Patent No. 5,972,461 to Sandstrom, in view of Japanese Patent No. JP 63-056832 A to Manabu, et al., and further in view of U.S. Patent No. 5,130,356 to Feuerherd, et al. Applicants respectfully traverse this rejection.

Sandstrom and Manabu et al. have been relied upon as discussed with relation to Claims 1, 7 – 11, 18, 21, 22, 29 – 32 and 37 – 41, and therefore continue to fail to establish a *prima facie* case of obviousness, and even combined, fail to meet all of the elements of the present claims, as is explained in detail above.

Feuerherd et al. are relied upon to teach that the material of Manabu et al. is good in replication from a mold, "which is necessary to form servo-tracking features…". (OA 04/06, page 6) Hence, it is alleged that it would have been obvious "to modify Sandstrom in view of Manabu et al. to utilize surface features…". (OA 04/06, pages 6 – 7) However, as is explained in detail above, considering the teachings of Sandstrom as to the differences and requirements of air-incident media versus read thru media, there is no motivation to combine Sandstrom with Manabu et al., and no expectation of success. Hence, Sandstrom, in view of Manabu et al. merely leaves the teaching of Sandstrom with many deficiencies.

Additionally, even if combined, Sandstrom clearly teaches away from a substrate having a thickness of less than 1.5 mm. Hence, combined as suggested in OA 04/06, the Sandstrom and Manabu et al. combination would, at best, be a media with a substrate having a thickness of 1.5 to 2.5 mm and comprising an aromatic vinyl monomer and polyphenylene ether. This non-obvious combination, even if formed, fails to meet all of the elements of the claims. Also, even if surface features were added, as is suggested in OA 04/06, the basic deficiencies of Sandstrom and Manabu et al. would not be resolved.

The Examiner also notes that Manabu et al. fail to provide sufficient guidance as to what weight average molecular weight should be utilized or whether a distribution of molecular weight should be utilized and therefore rely upon Feuerherd et al. to teach the weight average molecular weights. However, Feuerherd et al. teach an optically transparent, isotropic molding, for optical purposes that are free of orientation birefringence. The molding can be used for an audio compact disk (CD), audiovisual compact disk (CDV), laser-optical computer disk and magneto-optical computer disk. (Abstract) In other words, they focus on birefringence, transparency, and materials that will produce an optical, read-through disk that will have extended life and avoid the problems of conventional read-through disks. "[I]n this method of recording,... the recording layer is usually irradiated through the dimensionally stable substrate..." (Col. 20, lines 10 – 18) Feuerherd et al. fail to teach air-incident media or the affect of their materials on such media. There is no motivation to modify Sandstrom to include the material of Manabu et al. (that is taught for read-thru applications) and to further modify that material by the molecular weights taught in Feuerherd et al. (also a read-thru application), to attain an air-incident media. There is no expectation of success to make such a modification. Merely because a modification *could* be tried is not motivation with an expectation of success to perform the modification.

Since there is no motivation or expectation of success to combine Sandstrom's near-field media teachings with the read-thru media of Manabu and the amounts taught in Feuerherd et al., no *prima facie* case of obviousness has been established. Additionally, since, even combined, these references fail to teach each element of the claimed invention, the present claims are non-obvious over Sandstrom in view of Manabu et al and further in view of Feuerherd et al. Reconsideration and withdrawal of this rejection are respectfully requested.

Claims 16 and 17 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over U.S. Patent No. 5,972,461 to Sandstrom, in view of Japanese Patent No. JP 63-056832 A to Manabu, et al., and further in view of U.S. Patent No. 5,538,774 to Landin, et al. Applicants respectfully traverse this rejection.

Again, Sandstrom and Manabu et al. have been relied upon as discussed with relation to Claims 1, 7 – 11, 18, 21, 22, 29 – 32 and 37 – 41, and therefore continue to fail to establish a *prima facie* case of obviousness, and even combined, fail to meet all of the elements of the present claims, as is explained in detail above.

Landin et al. teach an internally damped rotatable storage article. Here, Landin et al. are relied upon to teach "that it is known to add fibrous and /or particulate filler to meet applicants' claimed material and shape limitations…" (OA 04/06, page 8) Again, as is explained in detail above, considering the teachings of Sandstrom as to the differences and requirements of air-incident media versus read thru media, there is no motivation to combine Sandstrom with Manabu et al., and no expectation of success. Hence, Sandstrom, in view of Manabu et al. merely leaves the teaching of Sandstrom with many deficiencies.

Additionally, even if combined, Sandstrom clearly teaches away from a substrate having a thickness of less than 1.5 mm. Hence, combined as suggested in OA 04/06, the Sandstrom and Manabu et al. combination would, at best, be a media with a substrate having a thickness of 1.5 to 2.5 mm and comprising an aromatic vinyl monomer and polyphenylene ether. This non-obvious combination, even if formed, fails to meet all of the elements of the claims. Also, even if fibrous or particulate filler were added, as is suggested in OA 04/06, the basic deficiencies of Sandstrom and Manabu et al. would not be resolved. (pages 8 – 9) Hence, even though there is no motivation to combine Sandstrom, Manabu et al., and Landin et al., as suggested in OA 04/06, even combined, these references fail to render the present claims obvious. Reconsideration and withdrawal of this rejection are respectfully requested.

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and withdrawal of the objection(s) and rejection(s) and allowance of the case are respectfully requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 50-1131.

Respectfully submitted,

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